

ABSTRACT

A semiconductor storage device includes a semiconductor substrate, a gate insulating film formed on the semiconductor substrate, a single gate electrode formed on the gate insulating film, two charge holding portions formed on both sides of the gate electrode, source/drain regions respectively corresponding to the charge holding portions, and a channel region disposed under the single gate electrode. A memory function implemented by these two charge holding portions and a transistor operation function implemented by the gate insulating film is separated from each other for securing sufficient memory function as well as easily suppressing short channel effect by making the gate insulating film thinner.